Results of survey on conference expectations

A thorough understanding of attendees and their specific needs is crucial for designing conferences that are both relevant and effective. Thus, in summer 2024, we conducted a survey on researchers' perceptions of and expectations towards scientific conferences. The survey was also distributed to the NAVBO community, and you might have participated in it. Thank you very much for your contribution!

Survey participants considered scientific conferences useful and important. In particular, participants expected to explore research objectives and network at their next planned conference. Participants' expectations of what to gain at their next planned conference largely did not differ between conference formats. The only exception were participants' networking expectations, as virtual participants had lower expectations to network than in-person participants (Figure 1). Based on this, it can be argued that differences between in-person conferences and alternative formats become marginal once virtual and hybrid conferences can enable effective networking.
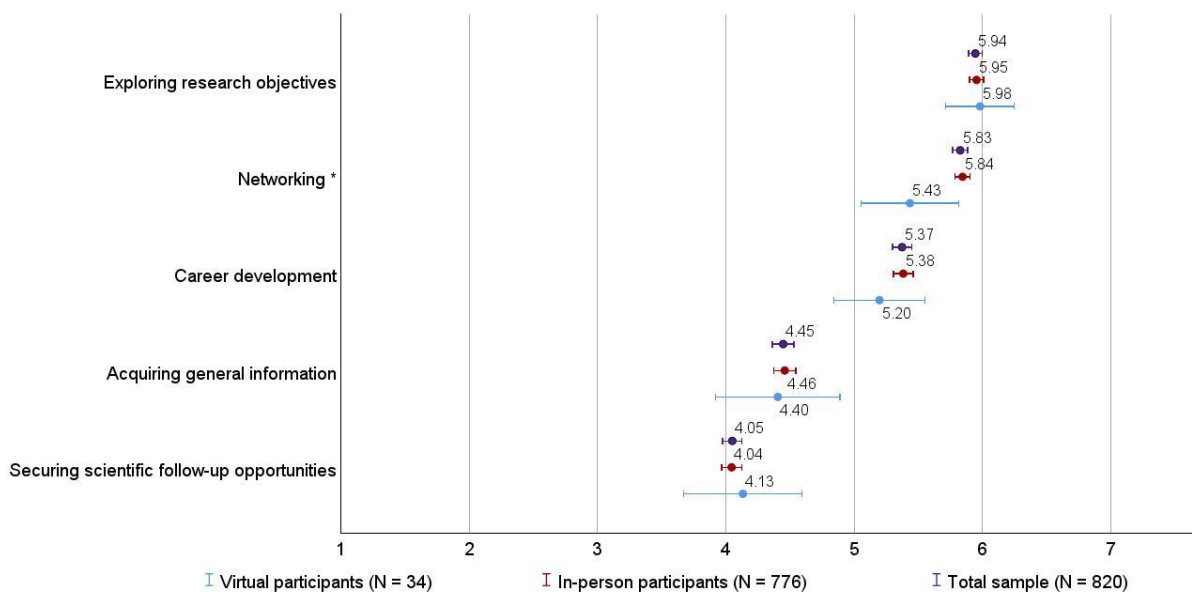

Figure 1. Participants expectations of what to gain at conferences
The variables were measured on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Dots represent means and error bars represent 95% confidence intervals. The five factors were measured with three to six items. Significant differences between in-person and virtual participants are marked with a *.

Participants' conference expectations differed based on individual characteristics, such as career stage, geographical context, and personal circumstances, revealing that not all researchers need the same of conferences. *Networking* was the only factor that all participants expected to benefit from, highlighting that this is universally valued across all researchers and career stages.

Early-career researchers had higher expectations regarding *acquiring general information*, *career development* and *securing scientific follow-up opportunities* compared to senior researchers. Simultaneously, researchers from the Global South had higher expectations to *acquire general information, explore research objectives* and *secure scientific follow-up opportunities* compared to their researchers from the Global North. Furthermore, disadvantaged researchers (defined as those facing challenges with visa restrictions, childcare responsibilities, funding, and disabilities) had higher expectations for *acquiring general information*, *career development* and *securing scientific follow-up opportunities* compared to more privileged researchers. This highlights that researchers who are typically underrepresented and disadvantaged in traditional in-person conferences often stand to benefit the most from attending, as they pursue outcomes that go beyond networking.

Overall, the results highlight the potential of virtual and hybrid conference formats to meet the diverse expectations of researchers while significantly reducing travel-related greenhouse gas emissions and enhancing inclusivity by removing barriers like funding and visa restrictions. Virtual and hybrid formats can currently effectively address many conference objectives, except for networking, which requires innovative tools to support informal exchanges. To transition toward sustainable practices, conference organizers should define clear goals, adopt purpose-driven formats, and invest in advanced technologies that cater to diverse researcher needs. These changes can align conferences with environmental and social sustainability goals while addressing the evolving needs of the global research community.

Annex

The results of the survey will be published in a research article that is currently under review. Supplementary Table 1 provides a description of the survey sample, while Supplementary Table 2 presents regression results analysing differences in researchers' expectations based on individual characteristics.

Supplementary Table 1. Sample description of the 820 participants working in academia and research

Variable		Percentage
Career stage	Undergraduate / master's student	1.34%
	Doctoral / PhD student	26.46%
	Postdoc / early-career researcher	26.34%
	Professor / scientific group leader > 10 years	36.34%
	Retired researcher	1.83%
Scientific field	Natural sciences	35.37%
	Engineering and technology	7.32%
	Medical and health sciences	5.00%
	Humanities and arts	6.83%
	Social sciences	44.02%
Employment continent	Asia	5.24%
	Africa	3.78%
	Europe	66.22%
	North America	17.20%
	South America	1.46%
	Oceania	4.76%
Nationality (by continents)	Asia	7.80%
	Africa	4.15%
	Europe	60.61%
	North America	17.32%
	South America	4.15%
	Oceania	3.78%

Supplementary Table 2. Linear regression model explaining the five dependent factors for the in-person participants (N = 776)

Independent variables	Networking				Acquiring general information				Exploring research objectives			
	β	SE	t	p	β	SE	t	p	β	SE	t	p
Intercept	**5.764**	**.151**	**38.245**	**< .001**	**4.701**	**.198**	**23.746**	**< .001**	**5.807**	**.134**	**43.331**	**< .001**
Career stage (0: ECR, 1: Seniors)	.068	.067	1.007	.314	**-.659**	**.088**	**-7.447**	**< .001**	.037	.060	.614	.539
Scientific field (0: Non-STEM, 1: STEM)	-.072	.068	-1.061	.289	**.276**	**.089**	**3.109**	**.002**	**.129**	**.060**	**2.141**	**.033**
Employment continent (0: Global South, 1: North)	-.052	.111	-.468	.640	**-.631**	**.145**	**-4.348**	**< .001**	**-2.37**	**.098**	**-2.424**	**.016**
Gender (0: Female, 1: Male)	-.076	.067	-1.133	.258	-.118	.088	-1.334	.183	-.099	.060	-1.656	.098
Fieldwork involvement (0: No, 1: Yes)	**.142**	**.068**	**2.084**	**.038**	**.244**	**.089**	**2.729**	**.007**	.075	.060	1.232	.218
Disadvantaged status (0: No, 1: Yes)	.006	.079	.075	.940	**.420**	**.103**	**4.071**	**< .001**	.122	.070	1.743	.082
Conference scale (0: Continental, 1: Intercontinental)	.117	.067	.075	.940	.055	.088	.619	.536	**.306**	**.060**	**5.122**	**< .001**
Regression Model	F(7,641) = 2.00, p = .053, R² adjusted = .02				F(7,641) = 17.16, p < 0.001, R² adjusted = .15				F(7,641) = 6.82, p < 0.001, R² adjusted = .06			

Independent variables	Career development				Securing scientific follow-up opportunities			
	β	SE	t	p	β	SE	t	p
Intercept	**5.631**	**.187**	**30.171**	**< .001**	**4.068**	**.185**	**21.936**	**< .001**
Career stage (0: ECR, 1: Seniors)	**-.477**	**.083**	**-5.720**	**< .001**	**-.195**	**.083**	**-2.357**	**.019**
Scientific field (0: Non-STEM, 1: STEM)	-.013	.084	-.158	.874	**.331**	**.083**	**3.977**	**< .001**
Employment continent (0: Global South, 1: Global North)	-.267	.137	-2.948	.052	**-.703**	**.136**	**-5.172**	**< .001**
Gender (0: Female, 1: Male)	**-.173**	**.083**	**-2.081**	**.038**	.049	.083	.592	.554
Fieldwork involvement (0: No, 1: Yes)	-.103	.084	-1.222	.222	**.244**	**.084**	**2.919**	**.004**
Disadvantaged status (0: No, 1: Yes)	**.355**	**.097**	**3.652**	**< .001**	**.318**	**.097**	**3.288**	**.001**
Conference scale (0: Continental, 1: Intercontinental)	.107	.083	1.292	.197	**.223**	**.083**	**2.695**	**.007**
Regression Model	F(7,641) = 8.58, p < 0.001, R² adjusted = .08				F(7,641) = 11.88, p < 0.001, R² adjusted = .11			